

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Cancelled)

2. (Currently Amended) A CAM device comprising:

 a CAM array including a plurality of physical banks;

 a logical bank-physical bank converter for setting an assignment between logical banks and physical banks, and for outputting a control signal to set a configuration of a one or more physical bank-banks assigned to a logical bank to be searched, depending on a logical bank signal indicating the logical bank to be searched;

 a priority circuit for outputting search results in accordance with predetermined priority, circuit; and

a cascade circuit,

 wherein in searching, searching one of hit entries and empty entries,

 i) if the CAM device includes one or more physical banks assigned to the logical bank to be searched:

 the logical bank-physical bank converter outputs a search control signal to the one or more physical banks so that each of the one or more physical banks output a search result to the priority circuit; and

 the priority circuit outputs a search result of the CAM device depending on the search result output from each of the one or more physical banks to the cascade circuit; and

 ii) if the CAM device includes no physical bank assigned to the logical bank to be searched, searched:

_____ the logical bank-physical bank converter outputs a signal to the cascade circuit to inform that there is no physical bank assigned to the logical bankbank so that the cascade circuit generates one of a signal indicating that there is no hit entry in the CAM device and a signal indicating that there is no empty entry in the CAM device as a search result of the CAM device; and

_____ the cascade circuit performs a logical operation on the search result of the CAM device and a search result supplied from a higher order CAM device, and transmits a result of the logical operation to a lower order CAM device.

3. (Canceled)
4. (Currently Amended) The CAM device according to claim 2, wherein when the searching is performed, the logical bank-physical bank converter outputs, to each physical bank assigned to the logical bank to be searched, a control signal for dynamically setting the configuration of the physical bank.
5. (Canceled)
6. (Previously Presented) The CAM device according to claim 2, wherein the logical bank-physical bank converter is capable of assigning one physical bank to two or more different logical banks.
7. (Canceled)
8. (Previously Presented) The CAM device according to claim 4, wherein the logical bank-physical bank converter is capable of assigning one physical bank to two or more different logical banks.
9. (Canceled)

10. (Currently Amended) The CAM device according to ~~claim 3, claim 2~~, wherein said cascade circuit ~~outputs signal HO as logical OR on a signal HIT of the CAM device and an input signal HI, and outputs signal FLO as logical AND on a signal FULL and an input signal FLI~~ performs logical OR operation when the cascade circuit generates the signal indicating that there is no hit entry, and performs logical AND operation when the cascade circuit generates the signal indicating that there is no empty entry.

11. (Canceled)

12. (Currently Amended) The CAM device according to claim 8, further comprising:

~~a cascade circuit for performing a logical operation on the search results output from the priority circuit of the CAM device and search results supplied from a higher order CAM device, and transmitting the results of the logical operation to a lower order CAM device,~~

~~wherein said cascade circuit outputs signal HO as logical OR on a signal HIT of the CAM device and an input signal HI, and outputs signal FLO as logical AND on a signal FULL and an input signal FLI~~ performs logical OR operation when the cascade circuit generates the signal indicating that there is no hit entry, and performs logical AND operation when the cascade circuit generates the signal indicating that there is no empty entry.

13-14. (Canceled)

15. (New) The CAM device according to claim 2, wherein, if the CAM device includes no physical bank assigned to the logical bank to be searched, the logical bank-physical bank converter outputs the signal directly to the cascade circuit.